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	<b>Section: 4.0 Diseases and Conditions</b>	Updated 7/03
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## Psittacosis

### **Overview** <sup>(1,2)</sup>

For a complete description of psittacosis, refer to the following texts:

- Control of Communicable Diseases Manual (CCDM).
- Red Book, Report of the Committee on Infectious Diseases.

### **Case Definition** <sup>(3)</sup>

#### ***Clinical description***

An illness characterized by fever, chills, headache, photophobia, cough, and myalgia

#### ***Laboratory criteria for diagnosis***

- Isolation of *Chlamydophila psittaci* (formerly *Chlamydia psittaci*) from respiratory secretions, or
- Fourfold or greater increase in antibody against *C. psittaci* by complement fixation or microimmunofluorescence (MIF) to a reciprocal titer of  $\geq 32$  between paired acute- and convalescent-phase serum specimens, or
- Presence of immunoglobulin M antibody against *C. psittaci* by MIF to a reciprocal titer of  $\geq 16$

#### ***Case classification***

*Confirmed:* a clinically compatible case that is laboratory confirmed


*Probable:* a clinically compatible case that is epidemiologically linked to a confirmed case or that has supportive serology (e.g., *C. psittaci* titer of  $\geq 32$  in one or more serum specimens obtained after the onset of symptoms)

#### ***Comment:***

The serologic findings by CF also may occur as a result of infection with *Chlamydia pneumoniae* or *Chlamydia trachomatis*. The MIF might be more specific for infection with *C. psittaci*, but experience with and availability of this newer test are more limited.

### **Information Needed for Investigation**

- **Verify the diagnosis.** Determine what laboratory tests were conducted and the results.
- **Establish the extent of illness.** Determine if household or other close contacts are, or have been, ill by contacting the health care provider, patient or family member.
- **Determine if a potential reservoir of infection exists in your community that may produce more cases.**

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- **Contact the Regional Communicable Disease Coordinator** if an outbreak is **suspected**, or if cases are in high-risk settings such as child care, a medical facility, or long term care.
- **Contact the Bureau of Child Care** if cases are associated with child care.
- **Contact the Division of Aging** if cases are associated with a long term care facility.

### **Case/Contact Follow Up And Control Measures**

Determine the source of infection.

- Psittacosis is rarely transmitted person-to-person. Most human cases may be traced back to contact with infected birds. Infected birds may exhibit overt signs of illness or be asymptomatic. Parakeets, parrots, and lovebirds have been the primary reservoir of infection but canaries, pigeons, cockatiels, ducks, chickens, and many other species birds may become infected.
- Ask about the patient's occupation, name, and location of employer. Interview the patient about job duties, if it appears the individual may have contracted the disease at work. Ask about patient contact with pet birds, live poultry, and other activities that would have exposed the individual to airborne dust contaminated with bird droppings.
- Identify symptomatic household members, associates, or co-workers and urge them to contact their physician for a medical evaluation.
- Individuals who have suspect, sick, or dying birds or poultry should consult a veterinarian. The Regional Communicable Disease Coordinator will contact the State Public Health Veterinarian who will contact the Missouri Department of Agriculture, as needed.


### **Control Measures**

See the Control of Communicable Diseases Manual, Psittacosis, "Methods of control."

See Red Book, *Chlamydia psittaci*, "Control Measures."

See the Compendium of Measures To Control *Chlamydophila psittaci* (formerly *Chlamydia psittaci*) Infection Among Humans (Psittacosis) and Pet Birds, 2003. <sup>(4)</sup>

If the epidemiological data indicate a specific source of infection and the potential for ongoing transmission to humans, quarantine measures may be established. Quarantines or modified quarantines may be established by the local health authority or through the Director of the Missouri Department of Health and Senior Services.

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## **Laboratory Procedures**

### **Specimens:**

Diagnosis of human cases is serological, based on a rising antibody titer between acute and convalescent sera specimens collected two to three weeks apart. Diagnostic testing is available through private laboratories. Cross reactions may occur with *C. pneumoniae* or *C. trachomatis* infections.

Confirmation by isolation of the organism from respiratory secretions is rarely attempted. Attempts to culture the organism in laboratories without specialized equipment has lead to outbreaks among laboratory personnel.


The Missouri State Public Health Laboratory (SPHL) no longer performs laboratory testing for psittacosis. Acute and convalescent sera specimens may be sent to CDC in special circumstances or for epidemiological purposes. Specimens should not be collected without prior authorization by the Regional Communicable Disease Coordinator. They will be sent through the SPHL to CDC. Please advise the submitter that serum specimens are accepted for epidemiological purposes but not for diagnosis and frequently several months may elapse before results are received. Additional information on laboratory procedures can be obtained from the Regional Communicable Disease Coordinator or from staff at the SPHL. The SPHL telephone number is 573-751-0633 and the web site is: <http://www.dhss.state.mo.us/Lab/index.htm>. (8 May 2003)

The University of Missouri's Veterinary Medical Diagnostic Laboratory (Columbia) offers testing for *C. psittaci* infection/harborage of birds. Interested individuals and their veterinarians should contact the laboratory for a schedule of fees and the specimen shipping requirements. The telephone number of the Laboratory is 1-800-862-8635 or 573-882-6811.

## **Reporting Requirements**

Psittacosis is a Category II disease and shall be reported to the local health authority or to the Missouri Department of Health and Senior Services within three days of first knowledge or suspicion by telephone, facsimile or other rapid communication.

1. For all cases complete a "Disease Case Report" (CD-1).
2. For confirmed and probable cases complete a "Record of Investigation of Communicable Disease" (CD-2).
3. Entry of the completed CD-1 into MOHSIS negates the need for the paper CD-1 to be forwarded to the Regional Health Office.

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4. Send the completed secondary investigation form to the Regional Health Office.
5. All outbreaks or “suspected” outbreaks must be reported as soon as possible (by phone, fax or email) to the Regional Communicable Disease Coordinator. This can be accomplished by completing the Missouri Outbreak Surveillance Report (CD-51).
6. Within 90 days of the conclusion of an outbreak, submit the final outbreak report to the Regional Communicable Disease Coordinator.

## **References**

1. Chin, James ed. “Psittacosis (*Chlamydia psittaci* infection, Ornithosis, Parrot fever, Avian chlamydiosis).” Control of Communicable Diseases Manual. 17<sup>th</sup> ed. Washington, DC: American Public Health Association, 2000: 405-407.
2. American Academy of Pediatrics. “*Chlamydia psittaci* (Psittacosis, Ornithosis).” In: Pickering LK., ed. 2000 Red Book: Report of the Committee on Infectious Diseases. 25<sup>th</sup> ed. Elk Grove Village, IL. 2000: 206-207.
3. Centers for Disease Control and Prevention. Case Definitions for Infectious Conditions Under Public Health Surveillance. MMWR 1997: 46 (No. RR-10). “Psittacosis (*Chlamydia psittaci*) (Ornithosis),” 1996, <http://www.cdc.gov/epo/dphsi/casedef/psittacosiscurrent.htm>. (8 May 2003)
4. National Association of State Public Health Veterinarians, Compendium of Measures To Control *Chlamydophila psittaci* (formerly *Chlamydia psittaci*) Infection Among Humans (Psittacosis) and Pet Birds, 2003. <http://www.avma.org/pubhlth/psittacosis.asp>. (8 May 2003)

## **Other Sources of Information**

1. Schlossberg, David. “*Chlamydia Psittaci* (Psittacosis).” Principles and Practice of Infectious Diseases. 5<sup>th</sup> ed. Eds. Gerald L. Mandell, John E. Bennett, and Raphael Dolin. New York: Churchill Livingstone, 2000: 2004-2006.
2. Schachter, Julius, and Alexander, E. Russell. “Chlamydial Infections.” Bacterial Infections of Humans Epidemiology and Control. 3<sup>rd</sup> ed. Eds. Alfred S. Evans and Philip S. Brachman. New York: Plenum, 1998: 197-222.
3. The Merck Veterinary Manual. 8<sup>th</sup> Ed. Ed. Susan E. Aiello. Whitehouse Station, NJ: Merck & Co., Inc., 1998. <http://www.merckvetmanual.com/mvm/index.jsp> (search “psittacosis” or “psittaci”). (8 May 2003)

## **Web Resources and Information**

1. Psittacosis Fact Sheet, Maryland Department of Health (several languages available) <http://www.edcp.org/factsheets/psittfact.html>. (8 May 2003)
2. Psittacosis, Farhad Arjomand, & Lessnau, K.D., eMedicine Journal, May 3 2002, V 3, N 5 <http://www.emedicine.com/med/topic1951.htm> (8 May 2003)

# **Psittacosis**

## **FACT SHEET**

### **What is psittacosis?**

Psittacosis is a bacterial disease also referred to as parrot fever or ornithosis. The symptoms of the disease are variable and may include fever, rash, muscle aches, chills, and a dry cough. It may produce pneumonia, which may not be apparent except on x-ray. The disease is transferred from animals to people. Parrots, parakeets, love birds, macaws, and cockatiels are frequently involved in the transmission of the disease to humans. All birds are susceptible to the disease and outbreaks have occurred on poultry farms, in pet shops, and in processing plants.

### **Who gets psittacosis?**

Anyone can get psittacosis if they are exposed to infected birds. Occupations at highest risk in the United States are bird breeders, poultry processing workers, farmers who raise poultry, veterinarians, pet shop owners and their employees. Sporadic cases also occur in individual households that have pet birds.

### **How do humans get psittacosis?**

The infection is acquired by inhaling dried secretions, dusts from feathers, or dried droppings from infected birds.

### **How would I know if my birds have psittacosis?**

Birds may be harboring the bacteria without any apparent ill effects. When birds develop the disease they become quiet, withdrawn, loose weight, and exhibit a pronounced change in their feces or droppings. If you believe your pet birds or poultry may be infected, you should contact your veterinarian who can arrange for the appropriate laboratory testing.

### **What are the symptoms of psittacosis?**

Fever, muscle aches, chills, headache, and a dry cough. A rash may also be present.

### **How long is the incubation period for psittacosis?**

The incubation period is one to four weeks.

### **How is psittacosis diagnosed?**

Since the disease is uncommon in the United States, the diagnosis usually requires laboratory tests. Several different methods are available from commercial laboratories to aid the clinician in diagnosing the disease. Exposure history is very important for the diagnosis.

### **What is the treatment for psittacosis?**

Antibiotics such as tetracycline or erythromycin for 10 to 14 days are usually sufficient.

**Can human to human transmission of psittacosis occur?**

Yes, but it is unlikely because the cough is usually non-productive and the ill individual does not expel the bacteria from the lungs.

**What possible complications may arise from an untreated infection?**

Encephalitis, meningitis, endocarditis, and neurological complications may occur. Severe pneumonia or death may occur in the elderly or immunocompromised.

**How can psittacosis be prevented?**

The most important measures to control the disease are already in place in the United States. The United State Department of Agriculture requires all imported birds go through a 45 day quarantine period at which time they are given medicated feed to help rid them of the bacteria. Ongoing programs conducted by the state departments of agriculture provide for prevention of the spread of the disease in domestic poultry.

Consumers should purchase all birds only from legitimate retailers. Most pet shops, hatcheries, and retailers maintain records that aid in the traceback of the infection.

**Missouri Department of Health and Senior Services  
Section for Communicable Disease Prevention  
Phone: (866) 628-9891 or (573) 751-6113**

MISSOURI DEPARTMENT OF HEALTH

RECORD OF INVESTIGATION OF COMMUNICABLE DISEASE\*

Patient's Name				FOR CODING ONLY			
Address		City		State		Zip Code	
Birth / /	Sex <input type="checkbox"/> M <input type="checkbox"/> F	Race <input type="checkbox"/> W <input type="checkbox"/> N <input type="checkbox"/> Other		County of Residence			
Parent's Name If Not Adult				Phone			
Hospitalized <input type="checkbox"/> Yes <input type="checkbox"/> No		Hospital Name		Date of Onset			
Physician's Name				Phone Number			
Address				Date			
Previous Address (if significant)				Date Moved			
Place Employed or School Attended				Occupation			
Date Reported		How did you first learn of this case?				Date	

Disease \_\_\_\_\_ ☐ Confirmed or ☐ Suspected } at beginning of investigation.

Chief Clinical Symptoms with Dates: \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Treatment (type, amount, dates): \_\_\_\_\_  
 \_\_\_\_\_

DIAGNOSTIC LABORATORY TESTS ON PATIENT			
Type of Specimen	Date Collected	Result	Name of Laboratory

Are there other associated cases? \_\_\_\_\_ If yes, how many, and how associated? \_\_\_\_\_

Household Sanitation: ☐ Good ☐ Fair ☐ Poor      Milk Supply \_\_\_\_\_  
 Water Supply \_\_\_\_\_

(Continued on reverse side)

\* Special forms should be used for investigations of Diphtheria (CD 2A), Encephalitis or Meningitis (CD 2B), Enteric Infections (CD 2C), and Foodborne Outbreaks (CD 2D).



Other Pertinent Epidemiological Data (exposure to birds and animals, insect bites, vaccination, travel, etc.): \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

CONTACTS (Household and Other)

Name and Address	Age Sex	Relation to Patient	Similar Illness? Onset Date	Laboratory Specimen	Date Collected	Result

Narrative and Follow-up Notes: \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Probable Source \_\_\_\_\_

☐ Recovered    ☐ Died    Date of Death \_\_\_\_\_ Cause of Death \_\_\_\_\_

Investigated by \_\_\_\_\_ Final Diagnosis \_\_\_\_\_

Name of Agency \_\_\_\_\_ Date \_\_\_\_\_